

# **SUBMISSION TO**

## **THE NSW DEPARTMENT OF PLANNING & ENVIRONMENT**

### **ON THE**

#### **INGLESIDE DRAFT STRATEGY AND DRAFT TECHNICAL STUDIES**

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#### **Preamble**

My submission is based on my belief that:

*Ingleside should be a shining example of how a modern community can live sustainably and in harmony with nature*

It is now abundantly clear that all of us need to quickly wean ourselves off carbon as a fuel and embrace a transition to a zero carbon lifestyle. The Ingleside precinct will be developed over an extended period and most if not all of the buildings will be in use in the year 2050, at which time the NSW Govt has committed to a zero carbon society. By this time all our homes and business activities will need to be carbon neutral so it follows that any buildings constructed will need to be built with this goal in mind.

Furthermore, it is our elevated lifestyle that has significantly contributed to the rapid rise in carbon emissions, and it is our responsibility to show that we in Australia are prepared to live sustainability and in harmony with the natural environment. We have a golden opportunity to show the way, and our Planners can make it happen.

The sustainable measures outlined in my submission are supported by a wide range of citizens in our community - I think the majority. It seems to me that the Ingleside Planners (Dept of Planning and Council) are simply out of step with community expectations.

I don't accept that just because there may currently be regulations and barriers in place that we should abandon this vision. If necessary I believe that Government has the responsibility to make the necessary changes to overcome inconvenient barriers.

I'm hoping that the planners will all take the opportunity to make Ingleside a shining example, not just another BAU development. As a vision let's make it a "Lighthouse Development".

Not all my recommendations need to be in place from day one. However the development Strategy should set down definite plans, including a timeline, for progressive implementation of sustainable measures.

#### **The Rationale for Embracing the Vision**

I am not alone in advocating a determined effort to create a highly sustainable vision for Ingleside.

#### **The NSW Energy and Climate Change Policy**

The NSW Government is moving ahead with the development of a comprehensive policy for

energy and climate change.

The policy acknowledges the International Context of the 2015 United Nations Paris Agreement, and the National Context of the Commonwealth Government's joining this Agreement.

**The Climate Change Policy Framework for NSW states:**

Aim:

"Maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate and current and emerging international and national policy settings and actions to address climate change."

Aspirational long-term objective:

"Achieve net-zero emissions by 2050"

**The Draft NSW Climate Change Strategic Plan states:**

"The NSW Government is committed to remaining a national leader in energy efficiency and to achieving our ambitious energy savings target to achieve 16,000 gigawatt hours of annual energy savings by 2020."

**The NSW Energy Efficiency Action Plan states:**

"The NSW Energy Efficiency Action Plan will place downward pressure on the cost of living for households, unlock energy productivity for business and position the NSW Government to lead by example."

**The Draft Plan to Save NSW Energy and Money states:**

"The NSW Government is serious about helping households deal with cost-of-living pressures, including energy bills. Energy efficiency is one of the best tools available to do this. By saving money through energy efficiency, we can ease cost-of-living pressures on households, reduce the cost of doing business, place downward pressure on energy prices and deliver essential services more efficiently."

**The Energy Efficient Homes Detailed Analysis states:**

"Specific policies targeting energy efficiency in new homes are important because many opportunities to save energy and improve living standards may only be feasible or cost effective at the design and construction phase of a new building."

It identifies the Ingleside Precinct as a "typical major urban renewal precinct" to be considered for increased BASIX energy targets.

**In Towards our Greater Sydney 2056, the Greater Sydney Commission states:**

"A sustainable city monitors its impact on global systems and climate change. A more efficient Greater Sydney will analyse the most cost effective and efficient ways to reduce environmental impacts, reduce reliance on carbon and influence the design and location of water, energy and waste systems."

**The Environmental Advisory Paper for the Greater Sydney Commission recommends:**

A strategy must be implemented that leads to further investment in low emission generation and supply/storage options at a regional, district and building level. These are large long-life infrastructure investment decisions and must be made objectively and carefully as they will directly affect emissions levels for decades to come."

**GSC's Draft North District Plan states:**

"The North District is a unique place in Greater Sydney, where bush meets beach meets city."

Strong, sustainable planning will guide and create a 20-year model to deliver a thriving modern economy co-existing within beautiful natural landscapes.”

Section 5 of the Plan addresses sustainability comprehensively. Of particular relevance to Ingleside, are three of its Sustainability Actions, as follows (From Section 5.8.2).

No	Action	Outcome
S7	Embed the NSW Climate Change Policy Framework into local planning decisions	Contribute to energy efficiency, reduced emissions and improved environmental performance
<b>S8</b>	<b>Support the development of initiatives for a sustainable low carbon future</b>	<b>Support the development of initiatives for a sustainable low carbon future</b>
S9	Support the development of environmental performance targets and benchmarks	Contribute to improved environmental performance

**The Ingleside Draft Strategy simply ignores the above policy directions.**

## Energy and Climate Change

### The case for a Carbon Neutral Ingleside

#### Introduction

Very little has been said about in the Strategy about the vision for Ingleside to become an exemplar project that sets an example of how to plan a really sustainable development. The Draft Strategy does mention the need for higher BASIX levels, but provides no indication of how much. There is no mention of how the development will meet the NSW Government's stated goal of zero emissions by 2050, or how it will comply with the Greater Sydney Commission **Action S8: Support the development of initiatives for a sustainable low carbon future**, or the benefits of incorporating microgrid technology, or an assessment of the estimated emissions, or what improvement to BASIX they will mandate.

Planning Minister Rob Stokes has said that Ingleside “**will set unprecedented standards for sustainability**” and that “**we want Ingleside to be a lighthouse development for sustainability**”

#### What does Carbon Neutral mean?

For Ingleside being Carbon Neutral will mean that homes and small business buildings will not in aggregate emit any CO<sub>2</sub>. Initially this would **not** include emissions arising from the use fuel in vehicles. The purchase of GreenPower and similar offsets would be permitted to balance any residual emissions after the building emissions and any the benefits of solar energy generation have been assessed.

In the following discussion it will be shown how Ingleside can easily become a Carbon Neutral Precinct on the above basis.

#### Carbon Neutral Requirements for Ingleside

The Kinesis Report estimates the annual household emissions for a house built at Ingleside is currently about 6.5 t CO<sub>2</sub> per year. An elevated BASIX standard at BASIX 60 would reduce this emission level by 2.6 t/yr, resulting in an emission level of 3.9 t/yr.

So to meet Carbon Neutrality there is a need to offset these remaining 3.9t CO<sub>2</sub> emissions by either installing additional solar PV, or by purchasing GreenPower, or a combination of both.

## **Basix Upgrade**

We all agree that BASIX is currently well out of date and needs revision. The Kinesis Report has shown that the current level of BASIX in the building trade is significantly above the minimum requirements - for energy it is travelling at about 5 points above compliance (so at about BASIX 45). Kinesis recommends that to meet the current the climate change targets the updated energy target should be set at BASIX60 at an estimated capital cost of around \$6,500, and with energy bill savings of \$800/yr. As well as reducing the cost of fuel to the owner, it will also result in an emission reduction of 2.6 t/yr. When this benefit is factored in at \$20/t, the payback would be about 8 years.

In my opinion we need to urgently upgrade BASIX for energy from BASIX40 to BASIX60 (noting that it is already effectively BASIX45, and well behind equivalent regulations in some other States). BASIX should be LEADING not LAGGING.

At a level of BASIX60 in my opinion it is probably more cost effective to further reduce household emissions by installing more PV rather than more insulation and other energy saving measures.

## **Solar PV**

According to the Kinesis Report there will be a residual emission of about 3.9tCO<sub>2</sub> for a dwelling based on BASIX60. Allowing for some dwellings which by virtue of their location are not suitable for installing solar PV, and for the more limited roof space available in medium density housing, it is estimated that suitable low density dwellings would need about 5kW of additional solar (and 2kW for medium density) to offset the precincts emissions. So the cost of reducing this residual by installing solar PV is about \$5000/dwelling (or \$2500 per medium density dwelling).

## **GreenPower and other Offsets**

GreenPower can be readily purchased from a range of retail suppliers at a premium of around 25% above the standard rate. For an average Ingleside house this would amount to an additional \$280pa (based on a 25% surcharge on the estimated use of 4480kWh at \$0.25/kWh).

There are many other avenues for offsetting emissions that cost less than GreenPower. A typical figure for Australian offsets is currently about \$20/tonne, so to offset the 3.9t referred to above would cost about \$80/year.

## **Summary**

So approximate cost of reaching Carbon Neutrality will be either \$280pa for GreenPower, or a capital cost of about \$5000 for solar PV, or about \$80/yr for offsets. This is not a significant cost in relation to the outlay for a new house, which stands at around \$1m.

So there must surely be a way of incorporating this cost for Carbon Neutrality into the housing at Ingleside.

## **Options for a Carbon Neutral Development**

Possible ways to reach Carbon Neutral:

- Mandate the Owner to install at least 5kW PV (in addition to any PV required to meet BASIX).
- Ramp up BASIX by requiring at least 6kW PV
- Regulate to require Developers to include at least 6kW PV on suitable dwellings
- Require developers to include 10yrs of carbon offsets into the house cost of purchasing each dwelling, say \$800.

There should be approved combinations of making an assessment for each dwelling depending on size and location, and then providing options for reaching neutrality.

## **Microgrid ready**

The way in which electric power is provided in Australia is in an era of rapid transition. The new era of energy supply will be based on a widely distributed system of embedded generation supplemented by power from the grid. In the process of transition users are faced with the ridiculous situation of paying 25c/kWh for power from the grid, but receiving only about 8c/kWh for export to the grid.

There is a real need for users to band together using microgrid technology so they can trade within the microgrid and avoid export as far as possible. The increasing use of microgrids can also be a big help to grid stability by providing battery storage on call.

So it is important that developments within Ingleside make maximum use microgrids - either by installing them at the outset or by making sure developments are microgrid ready.

There may also be a case for planning a connection to a large commercial centre such as Warriewood which requires power 24/7.

### **Microgrid Options**

Options for ensuring microgrid development in Ingleside:

- Mandate all developments include microgrid
- Provide incentives for Developers to include a microgrid
- Ensure that the smaller microgrids set up for successive developments can be integrated into a larger microgrid as the precinct develops
- NSW Govt could offer financial assistance to Developers

### **Other Energy and emission reduction Options**

Apart from BASIX and PV options, the overall carbon footprint can be reduced by addressing the following measures in a new Ingleside development:

- Less use of cars and greater acceptance of public transport
- Greater use of cycling and walking as a means of local travel
- Collection and reuse of rainwater and storm water

### **Reducing car use and Public Transport**

The availability of convenient public transport needs to LEAD not LAG housing development. This means providing a more attractive option for many travelers than using the car. The required measures for Ingleside are:

- An internal minibus route on 10 min schedules (at peak hour) circulating through the Ingleside streets and taking in Elanora Shops, the BRT bus interchange, Warriewood shopping centre, and Mona Vale shopping centre.
- BRT services on a 10 min cycle (this is already in place for Pittwater Road, but a similar service is required for Mona Vale Road BRT heading West).
- Providing EV charge points both in public areas and making all dwellings EV charge ready.
- Providing efficient cycling routes to the above locations and throughout the precinct.

### **Ingleside Draft Infrastructure Delivery Plan (the Cardno Report)**

This Report provides information and cost estimates for electricity infrastructure – obtained from Ausgrid. There is no discussion of, or reference to, the potential for sustainable energy design to impact electricity infrastructure. The assumptions behind demand estimates are unstated. It would appear to be simply a “business as usual” approach.

The Kinesis Report sits outside the draft Strategy. While applauding the production of that Report commissioned by Council, Sustainable Ingleside is disappointed that, more than 3 years after the Ingleside Project Plan was released, the draft Ingleside Strategy prepared by NSW Planning has largely ignored energy sustainability.

**There is an enormous gap between this draft Strategy and what has become achievable best practice in energy sustainability.**

## **Summary of Recommendations (for Energy and Climate Change)**

I recommend:

1. That the Planners embrace the Vision of a Lighthouse development and set about embedding this vision in all the documents, plans, charts, objectives, timelines, and press releases so that we can all get behind this great opportunity
2. That the Planners think outside the box and find a way of making Ingleside a Carbon Neutral development for all dwellings (based on an aggregate assessment).
3. That specific plans are set in place at the outset to ensure that when completed Ingleside will have a world class network of cycleways and access to public transport.
4. That effective measures to limit the use of private vehicles are embedded in the planning process.
5. That specific plans are set in place at the outset to ensure that provision for EV charging facilities are provided in public space and in all dwellings
6. That developers are required to incorporate microgrid technology in all projects, or alternatively ensure that the electrical wiring in projects can easily be adapted for future microgrid conversion.

## **SUSTAINABLE URBAN DESIGN AND PLANNING**

### **Introduction**

The Draft Strategy makes very scant reference to the need for Ingleside to be a special sustainable development. This is despite the clear indication for embarking on this need as set out in the Rationale above.

Submissions to the earlier public exhibition of planning documents in 2014 also included recommendations for addressing this issue, but after more than two years of further development there is little evidence that the Planners intend to embrace this need. Why is this so? There has been no explanation of why in the current documents and I can only assume that the Planners are either unaware of the pressing need to aggressively address climate change, or that they don't know how to plan for it.

### **Comments on the Planning Progress**

#### **Community Engagement**

It is good to see that the Planners have made a genuine effort to engage the community in the planning process, starting with the opportunity for the community to join in round table discussions over two years ago. The Ingleside website provides several ways in which comments and suggestions can be forwarded to the planning process.

The shortcomings that I see with the process to date are:

- A clear Vision for the Ingleside development outcomes has not been established from the outset. To everyone's amazement at the first Reference Group meeting there was no commitment to a sustainable outcome - the consultant said it was 'not in the brief.' How can the planning process make progress if the participants do not have a clear set of objectives? It is just not sufficient to say it must be sustainable - this word has come to mean anything from changing a lightbulb to living a hippie lifestyle. To bring focus to the objectives specific measures need to be set in place - in their absence we find ourselves in the current situation where the Planners and the community, and even our local State MP, are working to different agendas.
- There have been only two opportunities for the community to evaluate the planning progress - late in 2014, and now in Feb 2017. I would have expected that following the comments arising from the first exhibition there would have been ample opportunity for the planners to make significant progress and that much more detail would have been provided for the current exhibition. Sadly this is not the case and with no scheduled further opportunity to comment I have no confidence that the plans to be on exhibition in the Statuary exhibition later this year

will address reflect my concerns and those of other commentators. I recommend a third Non Statuary exhibition with much more detail be made available for comment.

- From my perspective there seems to be a reluctance for the Planners to take on board community concerns. I see no enthusiasm from the Planners for making Ingleside a 'Lighthouse' development. And yet my perception from comments and sentiments around the table at our community engagement venues is that sustainability is high on the agenda. In the report of outcomes following the last engagement meeting in 2015 sustainability was easily the most important issue:

<b>4.</b>	<b>Value the environment</b>	
a)	Create development that is sustainable and ecologically sensitive	26 yellow; 44 blue
b)	Encourage development that aims for zero impact on the environment	9 yellow; 25 blue
c)	Appropriately manage waste water and reduce water use	12 yellow; 30 blue
d)	Buffer traffic noise and pollution from Mona Vale Road	15 yellow; 13 blue
e)	Protect threatened animals, birds and plant species	5 yellow; 19 blue
f)	Maintain and enhance wildlife and fauna corridors	7 yellow; 26 blue
g)	Consider environments downstream of the catchment	2 yellow; 16 blue
h)	Consider protection and management of environmentally sensitive land	5 yellow; 18 blue
i)	Protect the environment and reduce the ecological footprint	6 yellow; 14 blue

## Exhibited Documents

I am very disappointed to see that the documents on exhibition do not provide adequate detail to show what the planners have in mind. For commentators to make constructive comments the following details need to be addressed:

- Many of the reports contain maps that have poor resolution so detail is difficult to see and when printed out they are A4 size or smaller, which is too small to read properly. An example is Figure 21, on p 71 in the Ingleside Precinct Transport and Traffic Assessment which shows the proposed active travel network. It is difficult to see exactly where the cycleways (for example) are positioned. Do they go through the green corridors or beside them?
- It is hard to assess the cumulative effects of the various changes proposed in the documents. This would be made easier if the various precinct plans in the Draft Strategy and the consultants reports were all available (on request) in high definition and to the same size and scale. For example, the effect that Asset protection zones have on fauna corridors.
- The colours used in the key to the Ingleside Precinct Structure Plan and other maps do not contrast enough, making it difficult to determine some of the land uses.
- The Community Centre will form a very important role in making Ingleside a modern friendly precinct that will be a focal point for local residents. There is no detail of how the Planners intend to bring this to fruition.
- There is a need to provide easy access to public transport at Ingleside, and yet there is no indication of what is proposed for commuter parking and details of the cycleways. Are they proposed as dedicated cycleways, or shared with pedestrians? Will there be cycleway access routes integrated into the dwellings layout (such as are common in Canberra)? What provisions are being made for parking at major bus stops? Is land to be set aside for parking stations? Will there be adequate provision for bicycle parking? Will EV charging points be provided?
- Just how is Green Star accreditation being addressed? Are we locked into a Four Star accreditation? Can we make some improvements and get to Five Star? If not why not.
- There is no reference as to the fate of existing native bushland. I suspect a lot of important stands would be bulldozed under the existing plans, and this is simply not acceptable in the development of a sustainable Ingleside.

## **Recommendations:**

I recommend: That a third Non Statuary exhibition with much more detail be made available for comment prior to the Statuary exhibition (at which time there is little opportunity for significant review of the Strategy).

## **Other Relevant Comments**

### **Noise**

The Plan shows dwellings adjacent to Mona Vale Road along the stretch either side of the Manor Road intersection. There appears to be no setback of these dwellings - so no measure to reduce noise and preserve a visual break from the intrusion of noisy traffic. There is quite a lot of existing native bush in this region and this should be preserved.

Recommendation: That the Planners include a buffer zone between dwellings and busy roads.

### **Transport and Traffic**

There is a real need to limit the use of cars in our society, and significantly reduce our emissions as a result. A local minibus circuit linking Ingleside with Elanora, BRT stops, Warriewood, and Mona Vale would enable commuters to leave their cars at home.

Recommendation: To embed the introduction of a local minibus circuit into the planning process - to be introduced when the development reaches a sufficient size.

### **Urban Trees**

There are many stands of native bush scattered throughout the precinct. It does not make sense to bulldoze these mature native trees as part of the building process. Is there some planning mechanism that can be embedded in the planning process to preserve these trees.

Recommendation: To embed a mechanism for limiting the clearing of established native bush in the development.

### **Water Cycle Management**

With a development of this size, and the potential impact it will have on the Warriewood sewage facility, it seems logical to treat as much of the waste water as possible within the precinct.

Recommendation: That commercially available processes should be investigated with a view to minimizing the impact on Warriewood and for providing treated wastewater for use in the community. All rainwater and where possible storm water should be captured and used within the community.

### **Biodiversity**

This aspect is being especially addressed by the planners. It is very important that there is a high level of wildlife protection, including generous wildlife corridors linking all habitats in the precinct with the surrounding parklands. The Strategy drawings do not show sufficient detail to enable an informed comment on this issue, but the main considerations should be:

- Wildlife corridors that are free from multiple uses such as footpaths and cycleways
- Riparian zones that are in the order of 100m wide to preserve both wildlife access, native vegetation, and water quality

Recommendation: That provision of wildlife habitat, adequate corridors, and crossing points should be a high priority and not subject to commercial compromise.

### **Green Star Accreditation**

The Planners are to be congratulated in seeking Green Star accreditation for the Ingleside development. However I would like to see Ingleside obtain a 5 Star level rather than settle for four Star as currently proposed. I would like to see the current basis for obtaining Level four and a discussion on whether five Star is within reach.



Green Star gives some benefit if the project includes a facility for educating the community. Pittwater Council has offered to help with the provision of a demonstration house and educational facility on site. This would provide a worthwhile focal point for Ingleside visitors and schools as the project develops.

Recommendation: That the Planners provide for the construction of a demonstration house and educational centre early in the precinct development.

## **Summary of Recommendations**

1. That the Planners embrace the Vision of a Lighthouse development and set about embedding this vision in all the documents, plans, charts, objectives, timelines, and press releases so that we can all get behind this great opportunity
2. That the Planners think outside the box and find a way of making Ingleside a Carbon Neutral development for all dwellings (based on an aggregate assessment).
3. That specific plans are set in place at the outset to ensure that when completed Ingleside will have a world class network of cycleways and access to public transport.
4. That effective measures to limit the use of private vehicles are embedded in the planning process.
5. That specific plans are set in place at the outset to ensure that provision for EV charging facilities are provided in public space and in all dwellings
6. That developers are required to incorporate microgrid technology in all projects, or alternatively ensure that the electrical wiring in projects can easily be adapted for future microgrid conversion.
7. That a third Non Statuary exhibition with much more detail be made available for comment prior to the Statuary exhibition (at which time there is little opportunity for significant review of the Strategy).
8. That the Planners include a buffer zone between dwellings and busy roads
9. To embed the introduction of a local minibus circuit into the planning process - to be introduced when the development reaches a sufficient size
10. To embed a mechanism for limiting the clearing of established native bush in the development.
11. That commercially available processes should be investigated with a view to minimizing the impact on Warriewood and for providing treated wastewater for use in the community. All rainwater and where possible storm water should be captured and used within the community
12. That provision of wildlife habitat, adequate corridors, and crossing points should be a high priority and not subject to commercial compromise.
13. That the Planners provide for the construction of a demonstration house and educational centre early in the precinct development.